

MRL MODEL 157 LOGARITHMIC AMPLIFIER

FROM DECADES TO UNITS

MRL Model 157 log amplifier compresses 5 decades of current input into a voltage output according to the equation, $E_{out} = K \log I_{in}$.

Designed and packaged for spaceborne applications, the all solid state log amplifier is ideally suited to most amplitude-compression requirements.

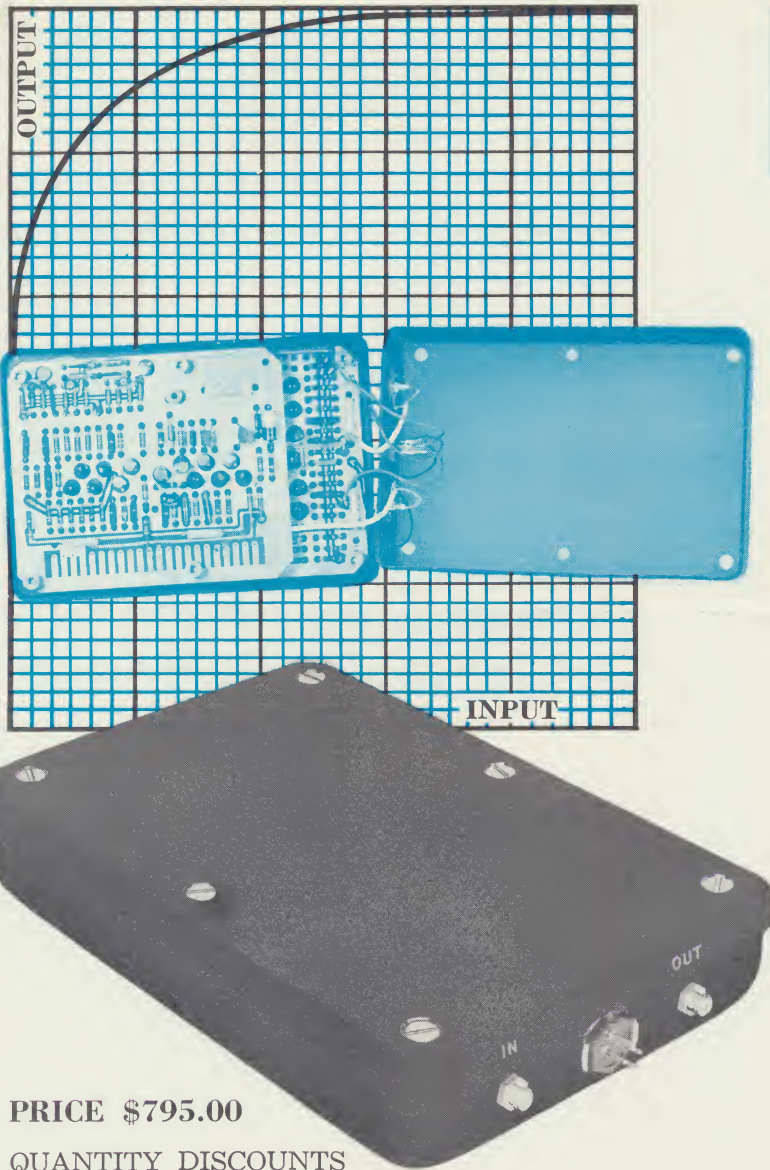
FIVE-DECADE COMPRESSION

The standard log amplifier provides 100 db (100,000 to 1) of signal compression, yielding full scale output of 5 volts at 25 milliamperes. Model 157 can also be supplied on special order with full scale output for 80, 60, 40, or 20 db compression.

The frequency response is flat from DC to .25 mc. To assure low DC drift, the log amplifier is chopper-stabilized and temperature-compensated for 0°C to +50°C. Model 157 log amplifier occupies less than 27 cubic inches of space and consumes only 3 watts of power.

APPLICATIONS

- Spectrometry
- Radiation monitoring
- Infrared bolometer signal compression
- Audio db measurements
- Solution monitoring



PRICE \$795.00

QUANTITY DISCOUNTS

(Price subject to change without notice)

SPECIFICATIONS

INPUT

Sensitivity.....from -3×10^{-8} to -3×10^{-3} amps*
Frequency Range.....flat from DC to 0.25 mc
(Higher frequency on special order.)

COMPRESSION RANGE.....Max. 5 decades-100 db
or 100,000:1 ratio
(Other ranges on special order.)

ACCURACY..... ± 0.2 db per decade
(With input coupling impedance of 10K Ω and up)

TEMPERATURE STABILITY..... ± 50 mv from 0°C
to +50°C

OUTPUT.....0 to 5 v @ 25 ma max.

OUTPUT RESPONSE TO PULSE INPUT:

Rise Time.....1.0 μ sec max.
Fall Time.....1.0 μ sec max.

DC POWER REQUIREMENT

Turn On.....+20 ± 2 v @ 200 ma &
-20 ± 2 v @ 100 ma
Steady State.....+20 ± 2 v @ 80 ma &
-20 ± 2 v @ 70 ma

POWER SUPPLY RIPPLE.....Appears on output
SIZE.....1-1/16" x 6 3/8" x 4 1/8"

WEIGHT

Standard Model14 oz.

*External resistor converts signal voltage to log amp input current. Input impedance equals external resistance since log amplifier input is virtual-ground node of an operational amplifier.

MISSOURI RESEARCH LABORATORIES, INC.



2109 LOCUST ST., ST. LOUIS, MO. 63103

MODEL 157 LOGARITHMIC AMPLIFIER

I have ☐ immediate ☐ near future ☐ no requirement(s) for "log amps."

The Model 157 ☐ does ☐ does not fulfill my immediate, or potential requirements.

(If not, please explain) _____

My anticipated "log amp" requirements for the next 12 months are _____ units.

Name _____
Title _____ Dept. _____
Company _____
Address _____
City _____ State _____ Zip _____
Telephone _____ Ext. _____

Please add the following name(s) to your mailing list.

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